

CLAIMS

What is claimed is:

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1. A fuel-concentration indicator incorporated in a fuel cell that operates by oxidizing a fuel solution, the fuel-concentration indicator comprising:
a volume of fuel solution; and
a float responsive to fuel solution density immersed in the volume of fuel solution.
 2. The fuel-concentration indicator of claim 1 wherein the volume of the fuel solution is contained within an anode reservoir.
 3. The fuel-concentration indicator of claim 1 wherein the volume of the fuel solution is contained within a float chamber in fluid contact with the anode reservoir and separated from the anode reservoir by a semi-permeable filter membrane.
 4. The fuel-concentration indicator of claim 1 wherein the volume of the fuel solution is contained within a float chamber in fluid contact with the anode reservoir and separated from the anode reservoir by a fuel channel.
 5. The fuel-concentration indicator of claim 4 further including a semi-permeable membrane between the fuel solution in the anode reservoir and the fuel solution in the float chamber.
 6. The fuel-concentration indicator of claim 1 further comprising a fuel scale aligned with a transparent window on an exterior surface of the fuel cell in fluid communication with the volume of fuel solution.
 7. The fuel-concentration indicator of claim 1 wherein the float contains a fuel indicator bar.

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8. The fuel-concentration indicator of claim 1 wherein the float controls release of the fuel solution.

9. The fuel concentration indicator of claim 8 wherein the float completes an electrical circuit controlling the release of the fuel solution.

10. A method for determining the concentration of fuel in a fuel solution in a fuel cell having an anode reservoir, the method comprising:

adding a float to the fuel solution; and

determining the concentration of fuel in the fuel solution by comparing the position of the float to numeric values contained on a fuel scale.

11. The method of claim 10 wherein determination of the concentration of fuel in the fuel solution is determined by viewing the position of the float through a transparent window.

12. The method of claim 10 wherein determination of the concentration of fuel in the fuel solution is determined by viewing the position of the float through a transparent window of a float chamber, the float chamber in fluid contact with the anode reservoir and separated from the anode reservoir by a semi-permeable membrane.

13. The method of claim 10 wherein determination of the concentration of fuel in the fuel solution is determined by viewing the position of the float through a transparent window of a float chamber, the float chamber in fluid contact with the anode reservoir and separated from the anode reservoir by a fuel channel.

14. The method of claim 13 further including a semi-permeable membrane between the fuel solution in the anode reservoir and fuel solution in the float chamber.

15. A fuel-concentration indicator incorporated in a fuel cell that operates by oxidizing a fuel solution, the fuel-concentration indicator comprising:

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a volume of fuel solution; and
a density-indicator means responsive to fuel solution density within the volume of fuel solution.

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16. The fuel-concentration indicator of claim 15 further including a quantifying means by which the position of the density-indicator means can be translated to a numeric representation of the fuel concentration in the fuel solution.

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